

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Rec'd PCT/PTO 23 JUN 2004

PCT Application

PCT/JP2002/013833



Applicant's or agent's file reference PCLA-14602	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP02/13833	International filing date (day/month/year) 27 December 2002 (27.12.02)	Priority date (day/month/year) 27 December 2001 (27.12.01)
International Patent Classification (IPC) or national classification and IPC G06F 17/30, 19/00		
Applicant CELESTAR LEXICO-SCIENCES, INC.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.  
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
These annexes consist of a total of 16 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 22 May 2003 (22.05.03)	Date of completion of this report 05 September 2003 (05.09.2003)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP02/13833

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

- ☐ the international application as originally filed
- ☒ the description:  
pages 1-5,12-27,30, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages 6-11,11/1,28,29, filed with the letter of 01 September 2003 (01.09.2003)
- ☒ the claims:  
pages 3,6,9,12, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages 1,2,4,5,7,8,10,11, filed with the letter of 01 September 2003 (01.09.2003)
- ☒ the drawings:  
pages 1-7, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1-12	YES
	Claims		NO
Inventive step (IS)	Claims	1-12	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims		NO

### 2. Citations and explanations

Documents cited in the international search report.

Document 1: JP 5-282381 A (Fujitsu Ltd.), October 29, 1993, Claim 1 (Family: none)

Document 2: FURUTA, et al., "Tanpakushitsu no Niji Kozo Yosoku Shien Expert-Expert System," Information Processing Society of Japan Dai 33 Kai (Showa 61 Nen Koki) Zenkoku Taikai Koen Ronbunshu (II), October 1, 1986, p. 1197-1198

Document 3: SIMONS, K. T. et al. Assembly of Protein Tertiary Structures from Fragments with Similar Local Sequences using Simulated Annealing and Bayesian Scoring Functions. JOURNAL OF MOLECULAR BIOLOGY, April 25, 1997, Vol. 268, No. 1, p. 209-225

Document 4: BYSTROFF, C. et al. Prediction of Local Structure in Proteins Using a Library of Sequence Structure Motifs. JOURNAL OF MOLECULAR BIOLOGY, August 21, 1998, Vol. 281, No. 3, p. 565-577

Document 5: BYSTROFF, C. et al. HMMSTR: A Hidden Markov Model for Local Sequence-Structure Correlations in Proteins. JOURNAL OF MOLECULAR BIOLOGY, April 4, 2000, Vol. 301, No. 1, p. 173-190

Document 6: SIMONS, K. T. et al. Prospects for ab initio Protein Structural Genomics. JOURNAL OF MOLECULAR BIOLOGY, March 9, 2001, Vol. 306, No. 5, p. 1191-1199

The inventions of claims 1-12 involve an inventive step with respect to documents 1-6.

Commentary:

Document 1 describes a three-dimensional structure analysis apparatus in which the mutual interactions between local structures of proteins are calculated.

Document 2 describes performing a comparison of predicted results by a method for predicting the three-dimensional structures of multiple proteins.

Documents 3-6 are documents demonstrating the general level of technology for predicting the three-dimensional structures of proteins.

Documents 1-6 neither describe nor suggest calculating frustration by comparing the results of fragment structures predicted by a program that predicts the structures of multiple fragments and then predicting the sites of mutual interaction.